REMARKS

The foregoing amendments are responsive to the February 9, 2005 Office Action. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Amendments to the Specification

Applicants have amended the typographical errors in the paragraph beginning on page 5 at line 3 to properly refer to the input data port 218 and the output data port 219.

Applicants have amended the typographical errors in the paragraph beginning on page 5 at line 17 to properly refer to the system controller 226 in the transceiver 202.

Applicants have amended the typographical errors in the paragraph the paragraph beginning on page 6 at line 10 to properly refer to the system controllers 210 and 226.

These amendments correct obvious typographical errors and do not add any new matter.

Objection to the Drawings

The Examiner objected to Figures 2 and 5 because the reference number for the System Controller 226 in the Transceiver 202 is inconsistent with reference numbers used in the specification.

Applicants have amended the specification as described above to properly refer to the System Controller 226 in the Transceiver 202 as shown in Figures 2 and 5.

The Examiner's objections to Figures 2 and 5 are traversed by the amendments to the specification, and Applicants request the Examiner to withdraw the objection to Figures 2 and 5.

Objection to Claim 20

The Examiner objected to the recited "channel transmitter channel" in Claim 20.

Applicants have amended Claim 20 to recite a "channel transmitter."

Applicants request the Examiner withdraw the objection to Claim 20, and indicate that Claim 20 is allowable.

Response to Rejection of Claims 1-3, 8-11 and 18-20 Under 35 U.S.C. 102(e)

The Examiner rejected Claims 1-3, 8-11, 18-20 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 6,625,161 to Su et al. ("Su").

Su teaches a system wherein the mapping unit 133 maps to queues. Load balancing among the queues is based on a measurement time interval T as "[a] predetermined time, such as one second in which measurements are taken for each queue of each communication channel." (See, column 6 at lines 29-31.) Su does not test whether a channel is active or inactive. The system of Su is concerned with load balancing, not whether a channel is active or inactive. Su apparently assumes that a packet, once assigned to a channel, will be delivered. Thus, the system of Su would not operate properly in situations where channels were dropping in and out due to noise or other problems because entire channel queues (containing groups of packets) would be lost or stalled. Su does not teach or suggest an active-fragment register and an active channel register and mapping logic configured to map as many active fragments as possible into active channels.

Su teaches that multiple queues can be associated with some of the channels as a many-to-one mapping (see e.g., column 6 at lines 37-40). Su does not teach or suggest channel reuse wherein a buffer is mapped to multiple channels (a one-to-many mapping).

Regarding Claim 1, Su does not teach or suggest a plurality of transmit buffers, each buffer corresponding to its own unique bit in an active-fragment register, each of the transmit buffers being an active buffer when the unique bit in the active-fragment register is asserted, a plurality of channel transmitters, each channel transmitter corresponding to its own unique bit in an active-channel register, each of the channel transmitters corresponding to an active channel when the unique bit in the active-channel register is asserted, and channel-mapping logic configured to map the transmit buffers to the channel transmitters according to data in the active-fragment register and the active-channel register, the channel mapping logic configured to map as many active fragments as possible into active channels, the channel mapping logic further configured to map active buffers to more than one channel once all active buffers have been mapped to at least one channel.

Regarding Claim 2, Su does not teach or suggest the system of Claim 1, wherein the number of the transmit buffers is the same as the number of the channel transmitters.

Regarding Claim 3, Su does not teach or suggest the system of Claim 1, wherein one or more of the active channels is carried by a power line networking system.

Regarding Claim 8, Su does not teach or suggest the system of Claim 1, wherein at least one of the channels is carried by a communication medium.

Regarding Claim 9, Su does not teach or suggest the system of Claim 8, wherein the communication medium comprises a coaxial cable.

Regarding Claim 10, Su does not teach or suggest the system of Claim 8, wherein the communication medium comprises a twisted-pair cable.

Regarding Claim 11, Su does not teach or suggest the system of Claim 8, wherein the communication medium comprises a fiber-optic cable.

Regarding Claim 18, Su does not teach or suggest a means for storing active fragments, a means for storing active fragment flags, a plurality of channel transmitters, means for storing active channel flags, and a means for mapping the active fragments to the plurality of channel transmitters.

Regarding Claim 19, Su does not teach or suggest a means for storing active fragments, a means for storing active fragment flags, a plurality of channel transmitters, a means for storing active channel flags, and a means for mapping the active fragments to the plurality of channel transmitters according to the active fragment flags and the active channel flags.

Regarding Claim 20, Su does not teach or suggest a means for storing active fragments, a means for storing active fragment flags, a plurality of active channel transmitters, a means for storing active channel flags, and a means for mapping the active fragments to the plurality of channel transmitters according to the active fragment flags and the active channel flags such that as many active fragments as possible are mapped to the active channel transmitters and to map one or more of the active fragments to more than one of the active channel transmitters once all of the active fragments have been mapped to at least one active channel transmitter.

Accordingly, Applicants assert that Claims 1-3, 8-11, 18-20 are allowable, and Applicants request allowance of Claims 1-3, 8-11, 18-20.

Response to Rejection of Claims 4 and 12-17 Under 35 U.S.C. 103(a)

The Examiner rejected Claims 4 and 12-17 under 35 U.S.C. 103(a) as being obvious in view of Su.

Regarding Claim 4, Su does not teach or suggest the system of Claim 1, wherein one or more of the channels is carried by a radio-frequency transmission system.

Regarding Claim 12, Su does not teach or suggest the system of Claim 1, wherein data is modulated onto the active channel using differential Binary Phase Shift Keying.

Regarding Claim 13, Su does not teach or suggest the system of Claim 1, wherein data is modulated onto the active channel using differential Quadrature Phase Shift Keying.

Regarding Claim 14, Su does not teach or suggest the system of Claim 1, wherein data is modulated onto the active channel using Quadrature Amplitude Modulation.

Regarding Claim 15, Su does not teach or suggest the system of Claim 1, wherein data is modulated onto the active channel using Frequency Shift Keying.

Regarding Claim 16, Su does not teach or suggest the system of Claim 1, wherein the active channel is frequency-division multiplexed with respect to a second active channel.

Regarding Claim 17, Su does not teach or suggest the system of Claim 1, wherein the active channel is orthogonal frequency-division multiplexed with respect to a second active channel.

Accordingly, Applicants assert that Claims 4 and 12-17 are allowable, and Applicants request allowance of Claims 4 and 12-17.

Response to Objection of Claims 5-7

The Examiner objected to Claims 5-7 as being dependent on a rejected base claim. The Examiner indicated that Claims 5-7 would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims.

Regarding Claim 5, Su does not teach or suggest the communication system of Claim 1, wherein said channel-mapping logic comprises a plurality of M-input one-output multiplexers, where M is the number of transmit buffers and an output of each transmit buffer is provided to one and only one input of each of said multiplexers and the output of each multiplexer is provided to an input of one and only one channel transmitter.

Regarding Claim 6, Su does not teach or suggest the communication system of Claim 1, further comprising a good-channel register, wherein data from said good channel register is used to update said active-channel register and said active-fragment register.

Regarding Claim 7, Su does not teach or suggest the communication system of Claim 6, wherein said good-channel register is configured to be loaded with a bitmask from an acknowledge packet, said acknowledge packet sent from a receiving node to a transmitting node in response to transmission of data from said transmitting node to said receiving node, said bitmask indicating on which of said channels said receiver successfully received data and on which of said channels said receiver did not successfully receive data in response to a previous transmission from said transmitting node.

Accordingly, Applicants assert that Claims 5-7 are allowable in their present form, and Applicants request allowance of Claims 5-7.

Summary

In view of the above amendments and arguments, Applicants assert that Claims 1-26 are in condition for allowance, and Applicants request allowance of Claims 1-26. If there are any remaining issues that can be resolved by a telephone conference, the Examiner is invited to call the undersigned attorney at (949) 721-6305 or at the number listed below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: _____July 20, 2005_____   By: _____

Lee W. Henderson Ph.D.
Registration No. 41,830
Attorney of Record
Customer No. 20,995
(949) 760-0404

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